## **CLAIMS**:



A fertilizer granule comprising:

- i) an elemental sulfur and swelling clay matrix, and
- ii) at least one additional fertilizer material incorporated into said matrix.
- 2. The fertilizer granule of claim 1, wherein said additional fertilizer material is selected from the group consisting of ammonium sulfate, urea, potash, ammonium, phosphate and micronutrient fertilizers.

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- 3. The fertilizer granule of claim 1, wherein said at least one additional fertilizer material is a core fertilizer which comprises a core surrounded by said matrix.
- 15 4. The fertilizer granule of claim 3 wherein said core fertilizer comprises an ammonium sulfate crystal.
  - 5. The fertilizer granule of claim 1, wherein said additional fertilizer material is a dispersed fertilizer which is dispersed throughout said matrix.

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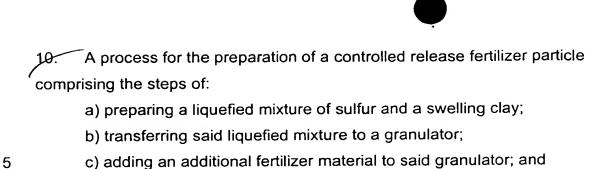
- 6. The fertilizer granule of claim 4 wherein said dispersed fertilizer comprises ammonium sulfate fines.
- 7. The fertilizer granule of claim 2, comprising both a core fertilizer and a dispersed fertilizer.
  - 8. The fertilizer granule of claim 2, wherein said micronutrient fertilizers comprise a material selected from the group consisting of iron, copper, zinc, boron, manganese and their oxy-sulfate, sulfate and oxide forms.

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9. The fertilizer granule of claim 1 wherein said matrix comprises a sulfur to clay ratio of about 10 to 1 to about 20 to 1 by weight.

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- d) collecting granules of a predetermined size.
- 11. The process of claim 10, further comprising the step of blending said additional fertilizer into said liquefied mixture between steps a) and b).
- 12. The process of claim 10, wherein said granulator is a falling curtain type of granulator.
- The use of a molten sulfur/ clay slurry to prepare a matrix for the delivery of an additional fertilizer material.
  - 14. The use according to claim 13, wherein said additional fertilizer material is ammonium sulfate fines.
- 20 15. A sulfur-based slurry matrix for slowing down rate of release of an incorporated fertilizer component, said slurry comprising:
  - i) molten sulfur
  - II) clay, and
  - iii) ammonium sulfate fines.
  - 16. The use of the slurry matrix of claim 15 to provide a slow release fertilizer product.
- 17. The slurry matrix of claim 15 wherein said ammonium sulfate fines30 have an average particle size of less than about 300 microns.
  - 18. The slurry matrix of claim 17 wherein said average particle size is less than about 150 microns.



- 19. The slurry matrix of claim 17 comprising up to about 50% by weight of said fines.
- 20. The slurry matrix of claim 15 comprising a sulfur to clay ratio of about5 10 to 1 to about 20 to 1 by weight.
  - 21. The use of the slurry matrix of claim 15 in a pastillator to form fertilizer pastilles.
- 10 22. The slurry matrix of claim 15 incorporating ammonium sulfate as said fertilizer component.
  - 23. The use of the slurry matrix of claim 15 in a falling curtain granulating drum to form fertilizer granules.